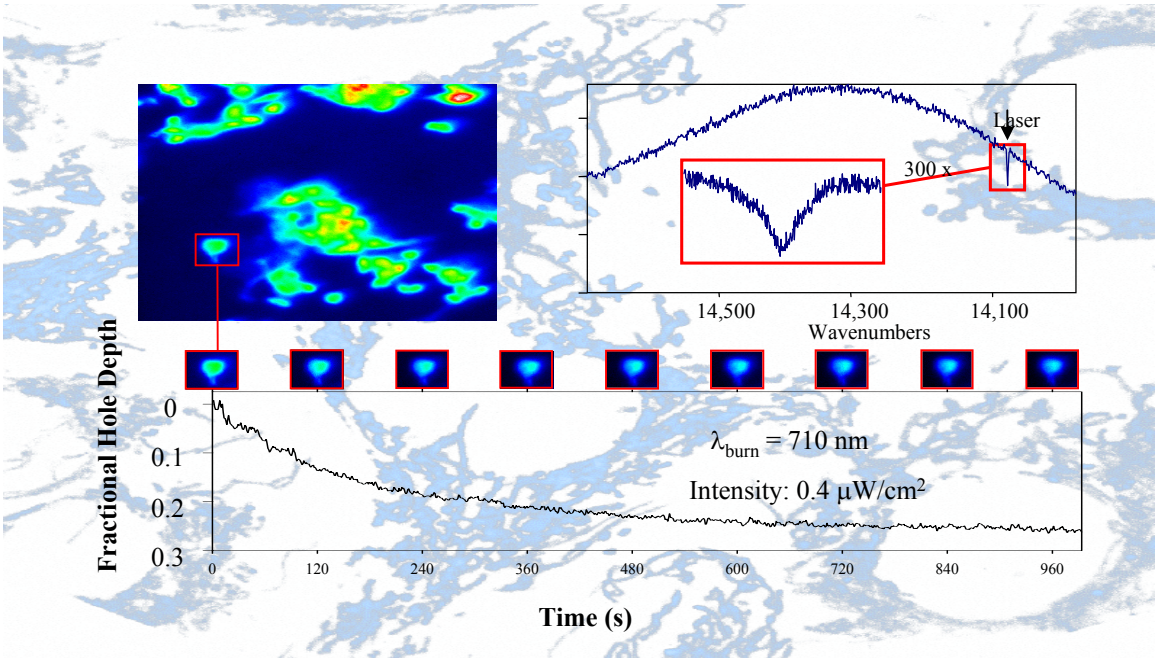
Hole Burning Imaging of Normal and Cancerous Cells
G. J. Small, Iowa State University, DMR-0226913



The kinetics of spectral hole burning for a mitochondrial selective dye can distinguish between normal and cancerous cells at the single cell level. Here is shown the kinetics for single normal cell (red box) determined by monitoring the fluorescence intensity decrease of the dye as a function of time. At top right is shown the spectral hole after the 1000 s burn. A confocal image in the background shows the dye in mitochondria of healthy cells.

And Fundamental Applications of Hole Burning:

- Structural disorder and configurational tunneling
- Photoinduced structural changes
- Early events in photosynthesis